PATENT COOPERATION TREATY

FAXED IN ADVANCE ON 040701

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

Tripoli, J.S.
THOMSON MULTIMEDIA LICENSING INC.
P.O. Box 5312
Princeton, New Jersey 08540
ETATS-UNIS D'AMERIQUE

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Rule 71.1)

Date of mailing *(day/month/year)*	09.07.2001
Applicant's or agent's file reference RCA 89226	**IMPORTANT NOTIFICATION**

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US00/03032	04/02/2000	26/02/1999

Applicant
THOMSON LICENSING S.A. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.

2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.

3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/	Authorized officer
European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Korving, J Tel.+31 70 340-2052

Form PCT/IPEA/416 (July 1992)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
RCA 89226		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US00/03032	04/02/2000	26/02/1999
International Patent Classification (IPC) or national classification and IPC H04N3/32		
Applicant THOMSON LICENSING S.A. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 5 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the report
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement
   - VI ☐ Certain documents cited
   - VII ☒ Certain defects in the international application
   - VIII ☒ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
24/08/2000	09.07.2001
Name and mailing address of the international preliminary examining authority: European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized officer Bequet, T Telephone No. +31 70 340 3339

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/03032

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, pages:

2-8	as originally filed			
1,1bis	as received on	13/02/2001	with letter of	13/02/2001

Claims, No.:

1-7	as received on	13/02/2001	with letter of	13/02/2001

Drawings, sheets:

1/4,3/4,4/4	as originally filed			
2/4	as received on	13/02/2001	with letter of	13/02/2001

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   - ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
   - ☐ the language of publication of the international application (under Rule 48.3(b)).
   - ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   - ☐ contained in the international application in written form.
   - ☐ filed together with the international application in computer readable form.
   - ☐ furnished subsequently to this Authority in written form.
   - ☐ furnished subsequently to this Authority in computer readable form.
   - ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
   - ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description, pages:
   ☐ the claims, Nos.:
   ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	4-6
	No:	Claims	1-3,7
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-7
Industrial applicability (IA)	Yes:	Claims	1-7
	No:	Claims	

2. Citations and explanations
   see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following document:

D1:EP-A-469567

1) The present application does not satisfy the criterion set forth in Art.33(2) PCT because the subject-matter of claims 1-3, 7 is not new in respect of prior art as defined in the regulations (Rule 64(1)-(3) PCT).

1.1)The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and insofar as this claim can be understood (see Section VIII), this document shows the following features thereof (the references in parentheses applying to this document):

A SVM deflection signal system (Fig.3) comprising a SVM deflection signal generator and a variable conduction device (Fig.3, (65)),

Said variable conduction device has two inputs even if these inputs are both connected to the base of a transistor, as it stands now the wording of claim 1 does not exclude the teachings of D1,

In a first condition (65) is adapted to provide a feedback path (col.6, line54 to col.7, line 23 and Fig.3, (116, 118, 65) to control a scanning velocity modulation deflection signal,

Relating to the second condition it is defined in the claim that the feedback path is interrupted for inhibiting the SVM signal. When considering the application it rather appears that the variable conduction device is activated such that the feedback is total (Q1 is completely conductive) which means that the feedback loop is not interrupted (as a matter of fact, in the second condition, the control of Q1 is taken over by the interruption signal).

Nevertheless when considering D1, in the second condition, (65) is disabled which also means that the feedback path is interrupted and as a result that the

SVM is inhibited.

As a conclusion it can be said that in D1, both conditions are acting on the same variable conduction device as defined in the complete application, on the other hand all the features of present claim 1 are disclosed in D1 which means that claim 1 is not new.

The circuit defined in the application appears to be different from the one disclosed in D1 but the difference is not reflected in the form of technical terms in present claim 1.

1.2) Dependent claims 2, 3, 7 are also disclosed in D1 they are therefore not new.

2) The present application does not satisfy the criterion set forth in Art.33(3) PCT because the subject-matter of claims 4-6 does not involve an inventive step (Rule 65(1)(2) PCT).

2.1) These three claims define that in the second mode the variable conduction device is fully conductive. It is admitted that in D1, (65) rather appears to be fully blocked. This feature is therefore considered as being the difference between these claims and D1.

When considering the application the problem to be solved relates to the reduction in the number of components for blocking the SVM or controlling its amplitude.

It is solved by using a single variable conduction device. The same solution is used in D1, as a consequence the objectively determined problem is considered to be to find out an alternative solution to the one disclosed in D1.

The solution which is to use a fully conductive device instead of a blocked device is considered as an alternative solution (which does not appear to produce any surprising effect), which according to circumstances, can be used by the skilled person. These claims are therefore not inventive.

Re Item VII

Certain defects in the international application

1) Claim 1 is not properly drafted in the two-part form as required by Rule 6.3(b) PCT

whereby all the features known in combination from D1 would be placed in the preamble.

Re Item VIII

Certain observations on the international application

1) Because the technical features used in claim 1 are not sufficiently clearly drafted, they leave the reader in doubt as to the meaning of the technical features to which they refer, thereby rendering the definition of the subject-matter of said claim unclear (Article 6 PCT).

1.1) In claim1 it is not clear whether the variable conduction device belongs to the generator defined at line 1 or not, it is also not clear if the signal generator defined at line 3 is the same as the one defined at line 1.

It rather appears, according to the description, that claim 1 refers to a SVM deflection signal system comprising a SVM deflection signal generator adapted to produce a scanning velocity modulation signal and a variable conduction device coupled to said SVM deflection signal generator.....

1.2) Some of the features are defined as the result to be achieved.

In the present case, at line 3, ...in a first condition providing a feedback path to control... could also be drafted as it follows: -in a first condition said variable conduction device is adapted to provide a feedback path to control....

The same observation can be made for the "second condition" where the variable conduction device is adapted to interrupt said feedback path and to inhibit the generation of said SVM deflection signal.

CONTROL OF SCANNING VELOCITY MODULATION

This invention relates to scanning velocity modulation (SVM) systems for enhancing picture sharpness and more particularly to a scanning velocity modulation control circuit integrated in an SVM system.

BACKGROUND OF THE INVENTION

It is well known that SVM systems may enhance cathode ray tube picture sharpness by modulating the scanning velocity of an electron beam based on a differentiated video signal, or SVM signal, derived from the luminance component of a video display signal. Slowing the scanning velocity of the electron beam causes a greater number of electrons to land at a particular point in the display resulting in a brighter picture at that particular location on the display. In contrast, increasing the velocity of the electron beam results in fewer electrons striking the display which leads to a darker picture at that particular location. The net effect of such modulation causes variations in display intensity about edge transitions in the picture resulting in the perception of increased picture sharpness. It is desirable, however, to disable SVM operation under certain conditions, for example, when channels are being changed, computer images displayed or when on screen display (OSD) message signals are generated for display. In addition, the output stages of an SVM circuit must be controlled to prevent over dissipation (excessive temperatures) in those stages.

Various schemes have been used to accomplish these objectives. For example, SVM systems are known which include a control circuit for protecting output stage devices and a disabling circuit for disabling an SVM circuit during OSD operation. It is also known to control SVM signal amplitude in accordance with output stage current to prevent excessive dissipation in output stage devices.

In European Patent EP 0469 567A2 an arrangement is disclosed for subjective sharpness enhancement of a CRT image by means of scanning beam velocity modulation. This patent teaches use of a negative feedback loop to control SVM signal magnitude responsive to output driver power dissipation. The output driver current is coupled to control a current source in a differential amplifier and thereby provide amplitude control of an SVM output signal. In addition EP 0469 567A2 identifies undesirable visual artifacts which result from SVM enhancement of OSD characters inserted into the display image. European Patent

EP 0469 567A2 teaches the selective disablement of SVM enhancement during OSD character insertion by means of a transistor switch which effectively removes base current from the current source of the differential amplifier thereby substantially eliminating the SVM output signal and inhibiting sharpness enhancement.

Such systems, however, suffer from several disadvantages. However, SVM inhibition and the prevention of over dissipation are facilitated by separate, independent systems which leads to a greater number of components and increased costs.

Thus, what is needed is an SVM control circuit that accomplishes both of these important objectives through the use of a minimum number of components. Reducing the number of parts that is needed to successfully

What is claimed is:

1. A scanning velocity modulation deflection signal generator, comprising:

a variable conduction device (Q1) having a first input (Q1e) responsive to a scanning velocity modulation deflection signal (Vm), and a second input (Q1b) responsive to a control signal;

in a first condition said device (Q1) providing a feedback path (Q1e-Q1c) for controlling said a scanning velocity modulation deflection signal (Vm) in magnitude; and,

in a second condition said device (Q1) interrupting said feedback path (Q1e-Q1c) and inhibiting generation of said scanning velocity modulation deflection signal (Vm).

2. The scanning velocity modulation deflection signal generator of claim 1, wherein during said first condition said variable conduction device (Q1) varies conduction in accordance with said magnitude of said scanning velocity modulating deflection signal (Vm).

3. The scanning velocity modulation deflection signal generator of claim 2, wherein said variable conduction device (Q1) varies conduction to variably attenuate a scanning velocity modulating signal (SVM) in accordance with said scanning velocity modulating deflection signal (Vm) magnitude.

4. The scanning velocity modulation deflection signal generator of claim 1, wherein during said second condition said variable conduction device (Q1) is fully conductive responsive to said control signal for inhibiting said scanning velocity modulation deflection signal (Vm).

5. The scanning velocity modulation deflection signal generator of claim 1, wherein during said second condition said variable conduction device (Q1) is fully conductive, attenuating a scanning velocity modulating signal (SVM) and inhibiting generation of said scanning velocity modulation deflection signal (Vm).

6. The scanning velocity modulation deflection signal generator of claim 1, wherein said second condition conduction in said variable conduction device (Q1) is unresponsive to of said scanning velocity modulating deflection signal (Vm).

7. The scanning velocity modulation deflection signal generator of claim 1, wherein said variable conduction device (Q1) is a transistor.

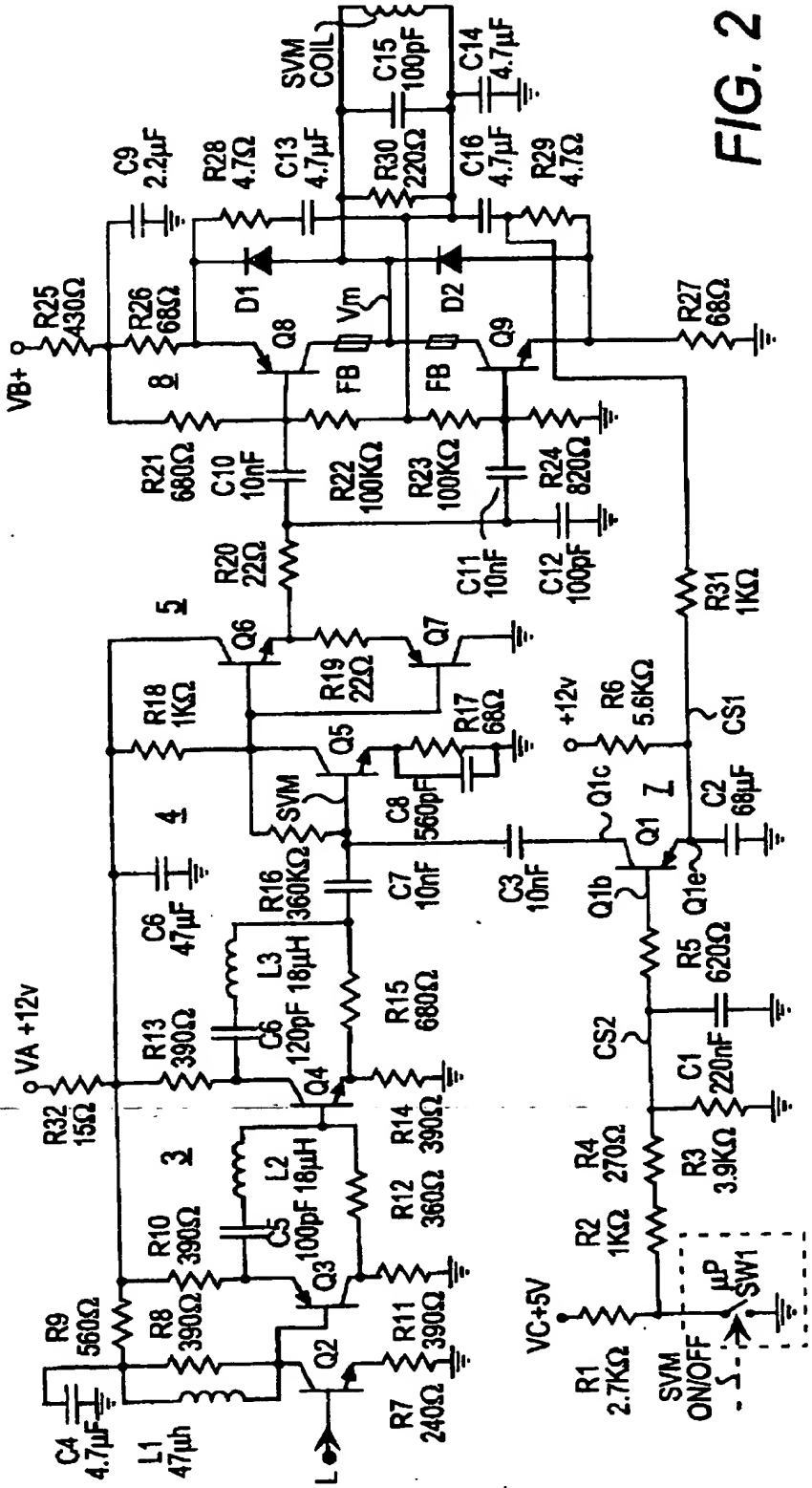
SVM COIL
C15 100pF
C14 4.7µF
C9 2.2µF
R28 4.7Ω
C13 4.7µF
R30 220Ω
C16 4.7µF
R29 4.7Ω
D1
D2
R25 430Ω
R26 68Ω
Vm
R27 68Ω
VB+
Q8
Q9
FB
FB
R21 680Ω
C10 10nF
R22 100KΩ
R23 100KΩ
R24 820Ω
C11 10nF
C12 100pF
R20 22Ω
R31 1KΩ
Q6
Q7
R19 22Ω
R18 1KΩ
R17 68Ω
+12v
R6 5.6KΩ
CS1
Q5
SVM
C8 560pF
Q1c
Q1
C2 68µF
C7 10nF
C3 10nF
R16 360KΩ
C6 47µF
Q1b
Q1e
L3 18µH
C6 120pF
R15 680Ω
R5 620Ω
VA +12v
R13 390Ω
CS2
C1 220nF
Q4
R32 15Ω
R14 390Ω
L2 18µH
R4 270Ω
R3 3.9KΩ
R12 360Ω
R10 390Ω
C5 100pF
Q3
R2 1KΩ
µP
SW1
R9 560Ω
R8 390Ω
R11 390Ω
VC+5V
Q2
R1 2.7KΩ
SVM ON/OFF
C4 4.7µF
L1 47µh
R7 240Ω
L

FIG. 2

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
RCA 89226		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/US 00/ 03032	04/02/2000	26/02/1999
Applicant		
THOMSON LICENSING S.A. et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

   a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   [ ] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

   b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

   [ ] contained in the international application in written form.

   [ ] filed together with the international application in computer readable form.

   [ ] furnished subsequently to this Authority in written form.

   [ ] furnished subsequently to this Authority in computer readble form.

   [ ] the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   [ ] the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. [ ] **Certain claims were found unsearchable** (See Box I).

3. [ ] **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

   [X] the text is approved as submitted by the applicant.

   [ ] the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

   [X] the text is approved as submitted by the applicant.

   [ ] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. 1

   [X] as suggested by the applicant.

   [ ] None of the figures.

   [ ] because the applicant failed to suggest a figure.

   [ ] because this figure better characterizes the invention.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/03032

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04N3/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 528 312 A (NO GWAN H ET AL) 18 June 1996 (1996-06-18) column 5, line 33 -column 6, line 17	1
A	EP 0 469 567 A (THOMSON CONSUMER ELECTRONICS) 5 February 1992 (1992-02-05) column 6, line 54 -column 7, line 22 column 8, line 7 - line 34; figure 3	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
31 March 2000	07/04/2000

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Bequet, T

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INTERNATIONAL SEARCH REPORT

[illegible]ation on patent family members

[illegible]ational Application No
PCT/US 00/03032

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5528312 A	18-06-1996	JP 7087354 A	31-03-1995
EP 0469567 A	05-02-1992	US 5072300 A	10-12-1991
		CA 2047898 A,C	03-02-1992
		CN 1058688 A,B	12-02-1992
		CS 9102371 A	19-02-1992
		DE 69116254 D	22-02-1996
		DE 69116254 T	18-07-1996
		ES 2084068 T	01-05-1996
		FI 913678 A	03-02-1992
		HK 1004315 A	20-11-1998
		HU 62127 A	29-03-1993
		JP 4245786 A	02-09-1992
		JP 11103398 A	13-04-1999
		JP 11103399 A	13-04-1999
		JP 11127365 A	11-05-1999
		PL 166499 B	31-05-1995
		PT 98536 A,B	30-09-1993
		SK 279265 B	05-08-1998
		TR 26420 A	15-03-1995

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Assistant Commissioner for Patents
United States Patent and Trademark Office
Box PCT
Washington, D.C.20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 06 October 2000 (06.10.00)	
International application No. PCT/US00/03032	**Applicant's or agent's file reference** RCA 89226
International filing date (day/month/year) 04 February 2000 (04.02.00)	**Priority date** (day/month/year) 26 February 1999 (26.02.99)
Applicant SENDELWECK, Gene, Karl	

1. The designated Office is hereby notified of its election made:

[X] in the demand filed with the International Preliminary Examining Authority on:

24 August 2000 (24.08.00)

[ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

[ ] was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Claudio Borton

Telephone No.: (41-22) 338.83.38